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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314				
EXAMINER				
BERNSHTEYN, MICHAEL				
ART UNIT		PAPER NUMBER		
1796				
NOTIFICATION DATE		DELIVERY MODE		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/517,614

Applicant(s)

ISSBERNER ET AL.

Examiner

MICHAEL M. BERNSTEYN

Art Unit

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 April 2008.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5, 6 and 10-24 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-3, 5, 6 and 10-24 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-8508)
Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

1. This Office Action follows a response filed on April 23, 2008. Claims 1, 13 and 17 have been amended; claim 4 has been cancelled; no claims have been added.
2. In view of the amendment(s) and remarks, the rejection of claims 1, 4, 13 and 17 under 35 U.S.C. 112, 2nd paragraph, the rejection of claims 1-6 and 10-24 under 35 U.S.C. 103(a) as being unpatentable as obvious over Fujikake et al. (U.S. Patent 6,084,032) in view of Behr et al. (U.S. Patent 5,756,624), and the rejection of claims 15 and 17-21 under 35 U.S.C. 103(a) as being unpatentable as obvious over Fujikake et al. (U.S. Patent 6,084,032) in view of Behr et al. (U.S. Patent 5,756,624) as applied to claims 1-6, 10-16 and 22-24 above and further in view of Werres (U. S. Patent 5,656,177) have been withdrawn.
3. Claims 1-3, 5, 6 and 10-24 are pending.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-3, 5, 6 and 10-24 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Newly amended claim 1 recites "A clear, water-soluble copolymer derived from a monomer composition, comprising: of a₁) a monoethylenically unsaturated, acid-group-containing monomer selected from the group consisting of monocarboxylic acids and dicarboxylic acids; a₂) a monoethylenically unsaturated sulfonic acids acid; and b) a copolymerizable hydrophobic monocyclic terpene hydrocarbon". The specification does not disclose that the clear, water-soluble copolymer derived from these three groups of monomers because previously claims 1 and 4 recited that a monoethylenically unsaturated sulfonic acid was a part of the Markush group of the component a). Therefore, at the time the application was filed it appears applicants' did not have possession of the claimed invention. This is a new matter rejection.

Allowable Subject Matter

5. Claims 1-3, 5, 6 and 10-24 are allowed.
6. The following is a statement of reasons for the indication of allowable subject matter of claims 1-3, 5, 6 and 10-24: the present claims are allowable over the closest references: Fujikake et al. (U.S. Patent 6,084,032), Behr et al. (U.S. Patent 5,756,624) and Werres (U. S. Patent 5,656,177).

Fujikake discloses a polymer composition comprises (A) a crosslinked polymer comprising (a) an α,β -unsaturated carboxylic acid and (b) a compound having at least two ethylenically unsaturated groups, and (B) at least one polymer comprising N-vinylpyrrolidone as essential monomer (abstract).

The α,β -unsaturated carboxylic acid (a) is not limited to any particular species but includes, among others, acrylic acid, methacrylic acid, crotonic acid, maleic acid, itaconic acid, fumaric acid and other olefinic unsaturated carboxylic acids. These may be used either singly or in combination as a mixture of two or more. Among them, acrylic acid is most preferred since it is readily available at low cost and can give polymers having good performance (col. 1, line 63 through col. 2, line 4).

The compound (b) having at least two ethylenically unsaturated groups is not limited to any particular species and includes, among others, acrylate esters with two or more acryloyl moieties as derived from polyols such as ethylene glycol, propylene glycol, polyoxyethylene glycol, polyoxypropylene glycol, glycerol, polyglycerol, trimethylolpropane, pentaerythritol, saccharose, sorbitol, etc. (col. 2, lines 5-22).

The above-mentioned compound (b) having at least two ethylenically unsaturated groups is used preferably at an addition level of 0.05 to 10% by weight based on the crosslinked polymer (A), which is within the claimed range (col. 2, lines 23-26).

Fujikake discloses that said α,β -unsaturated compound is not limited to any particular species but includes, among others, acrylate esters such as methyl acrylate, ethyl acrylate, isopropyl acrylate, butyl acrylate, octyl acrylate, 2-ethylhexyl acrylate, decyl acrylate, lauryl acrylate, stearyl acrylate, glycidyl acrylate, etc. These species are preferably used at an addition level of 0.1 to 20 parts by weight per 100 parts by weight of polymer (A), which is within the claimed range (col. 4, lines 20-49).

Fujikake discloses that the polymer composition containing carboxyl group can be produced by polymerizing in advance the monoethylenically unsaturated carboxylic acid (a) and the compound (b) having at least two ethylenically unsaturated groups, drying the thus-obtained crosslinked polymer (A) (col. 3, 46-50). Acrylic acid-based, crosslinked polymer compositions containing carboxyl group were prepared using AIBN as the radical polymerization catalyst (col. 7, lines 52-55). Since the polymer composition containing carboxyl group carries carboxyl groups, when dissolved in water and then neutralized with a base such as sodium hydroxide or triethanolamine, gives a neutralized viscous liquid excellent in thickening property and flow characteristics (col. 4, lines 50-55).

Fujikake discloses that the concentration of the copolymerizable constituents in the aqueous polymerization mixture is within the claimed range (Examples 1-1 to 1-4, col. 5, line 28 through col. 7, line 20).

Behr discloses a copolymer consisting of monomer units derived monomers consisting of:

(A) 10 to 50% by weight of a terpene with no conjugated double bonds,

B) 20 to 50% by weight of a member selected from the group consisting of olefinically unsaturated monocarboxylic acids containing 3 to 5 carbon atoms and anhydrides thereof, and olefinically unsaturated dicarboxylic acids containing 3 to 5 carbon atoms and anhydrides thereof, and

(C) 40 to 50% by weight of an ester selected from the group consisting of esters and semiesters of olefinically unsaturated monocarboxylic containing 3 to 5 carbon

atoms and esters and semiesters of olefinically unsaturated dicarboxylic acids containing 3 to 5 carbon atoms, with the proviso that the sum total of said monomers is 100% by weight (abstract).

Behr exemplifies that weight average molecular weight of the obtained copolymer is between 1,100 and 9,600, which is within the claimed range (Examples 1-32, col. 3, line 25 through col.9, line 2).

Behr discloses that the copolymers may be used as tackifiers in adhesives, in paints and as binders for printing inks, textile sizing agents, builders and hardeners. Copolymers with esters to which a relatively long-chain alcohol radical is attached are suitable for hydrophobicization, for example for hydrophobicizing shoe and clothing leather (col. 3, lines 117-23).

Werres discloses the use of oil-in-water emulsion to prevent slime formation and inhibit the proliferation of microbes in water carrying system. The emulsion contains at least one of the following active substances as a component of the oil-phase: a saturated or unsaturated, open-chain or cyclic, normal or isomeric hydrocarbon; an acyclic, preferably monocyclic and/or bicyclic terpene, such as a terpene hydrocarbon and/or terpene alcohol; etc. The proportion of oil phase in these emulsions is between 1 and 90 wt. %. The emulsions are used in concentrations of 1 to 200 ppm (abstract).

Werres discloses that oil and water emulsions can be used as agents for the prevention of slime formation caused by microorganisms and for the prevention of microbial growth in water-bearing systems because Water carrying systems, such as water and waste water piping, cooling or heating cycles, cooling lubricant systems,

drilling fluids, or industrial process waters for the transport of matter contain a variety of microorganisms (col. 1, lines 5-14). Also, these oil-water emulsions are suitable for the use against microorganisms in aqueous systems in the manufacture of sugar from sugar beets (col. 2, lines 33-35).

However, Fujikake, Behr and Werres do not disclose or fairly suggest instantly claimed clear, water-soluble copolymer derived from a monomer composition, comprising: of a₁) a monoethylenically unsaturated, acid-group-containing monomer selected from the group consisting of monocarboxylic acids and dicarboxylic acids; a₂) a monoethylenically unsaturated sulfonic acids acid; and b) a copolymerizable hydrophobic monocyclic terpene hydrocarbon, as recited in newly amended claims 1, 13 and 17.

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL M. BERNSHTEYN whose telephone number is (571)272-2411. The examiner can normally be reached on M-Th 8-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael M. Bernshteyn/
Examiner, Art Unit 1796

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/Randy Gulakowski/

Supervisory Patent Examiner, Art Unit 1796